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EDITORIALLY SPEAKING

MORE CRITERIA FOR JUDGING THE PROJECT METHOD

The professors of education are determined that the classroom teacher shall not become confused as to what is meant by the "project method" if they can help it. The latest attempts at guidance are found in the *Elementary School Journal* for January and the *Educational Review* for February, the writers being respectively Professor Parker, of the University of Chicago, and Professor Horn, of the University of Iowa. Professor Parker would make the matter very simple and plain. He would accept the dictionary's definition of a project as "something of a practical nature thrown out for the consideration of its being done." His definition then would read as follows: "A pupil-project is a unit of practical activity planned by the pupils." The illustrations which follow the definition portray classes of fifth grade children making castles—purely imaginary or in imitation of historical ones—to illustrate feudal life. One class composed a poem called "Our Castle in the Sand-Pan." Professor Parker also offers specific accounts of how projects are worked up in the Francis W. Parker School in Chicago, and would evidently define many of the accounts of school activities found in the *Twentieth Year Book of the National Society for the Study of Education, Part I*, as projects inasmuch as they offer opportunity for practical planning.

Professor Parker notes three important movements in the new education, namely, motivation, problem solving, and project teaching. The three, however, he says, should not be confused. They are distinctly separate, or rather, project teaching is a subdivision of problem solving, inasmuch as it involves practical planning. Thus it will be seen that his distinction turns on the meaning of the word "practical." If, as he seems to feel, everyone will understand this word in the same sense, and if we will agree to this as the principal criterion of project teaching, we shall have no further cause for dispute.

That the sailing is not to be quite so plain seems evident from the second article, that by Professor Horn. He also would undertake to clear up confusion. He reminds us that projects originated in agriculture, manual training, and domestic science. Such projects were highly practical problematic activities taken in their natural setting and involving the use of concrete materials, usually in a constructive way. They could be distinguished from other school activities in that: (1) they were organized more directly about the activities of life outside the school; (2) they were more concrete; and

(3) they afforded a better test of working knowledge. The chief objective on the part of the teacher was efficiency in performance. Other subjects began to use similar methods, even, for example, in the translation of the famous passage about Cæsar's bridge. There was a fair amount of agreement as to the fundamental characteristics of the project.

Confusion, however, has arisen. Some have introduced the subjective element, insisting that the pupils shall initiate school activities as well as carry them on. Less emphasis, too, is placed on identifying projects with the activities typical of adults outside the school. Professor Horn would insist upon social utility as the main criterion of the project. It must represent a body of subject matter of known value in life outside the school; it should seek not merely to interest the child, but to develop the interests that he should have. School policies should demand a sharp and systematic attack on social objectives of value, should regard the technique of teaching as special to each subject and even to the parts of subjects, and should make definite provisions for thorough learning through practice, drills, summaries, and reviews.

By way of comment upon these two articles, it is perhaps sufficient to remark that when the authors have agreed as to which is confused, there will be time enough to consider the relation of the position of the winner to the position which he attacks. It is not entirely clear that there is as much confusion in the minds of teachers generally as the authors seem to think. Possibly those who have not settled upon a technical meaning for the word "project" may find it easier to accept it as designating a fundamental concept of method than as referring to some type of organized or objective activity. Certainly when pupils discuss the making of a castle to illustrate medieval life they probably think it worth doing. The project presented a situation demanding reflective thinking. Not least of all it offered the opportunity for the pupils to judge of the success of their work when it was completed. What Professor Parker calls "practical planning" would seem to provide—at least by implication—for most, if not all, of the essential elements found in the more inclusive definitions of the project.

Professor Horn's plea for a return to something in the past will probably be ineffectual. The pendulum swings, it is true, but never, in school work, directly back. If the subjective element which he decries is not present in his so-called "projects," then they offer only opportunity for learning in a formal sense, no matter how far they may approximate activities of social value in themselves, or *resemble* real projects.

REORGANIZATION OF COURSES IN EDUCATION IN THE NORMAL SCHOOL

W. F. TIDYMAN

Head of Department of Education and Director of Training School, Farmville, Virginia

For many years the usual courses in education have been given in the State Normal School at Farmville. These included psychology, general and special methods, history of education, principles of education and management. The selection and arrangement of these courses have received continued study, and carefully considered changes have been made from time to time, aiming at adapting them to accepted educational principles on the one hand, and to local needs on the other. In spite of these efforts at progress and adjustment, there has been a growing dissatisfaction with the old courses, due it would seem to the confusion resulting from the overlapping of topics, and to the conviction that the old organization violated fundamental pedagogical principles. The outcome has been a thoroughgoing reorganization of courses. The problem and the tentative solution constitute the burden of this paper.

The situation before reorganization was attempted may be shown concretely in connection with Course III, the two-year course preparing teachers for work in the grammar grades. In addition to Introductory Psychology, required of all students in the first quarter, the following courses were offered: Grammar Grade Methods, Methods and Management, Principles of Education, and History of Education. The Grammar Grade Methods course included brief treatments of the fundamental subjects, emphasizing these topics: aims of education, the selection and organization of material, and methods of teaching. The Methods and Management course consisted of a careful treatment of the types of teaching, and problems of class and school management. The main topics were: aims of education, the selection and organization of material, methods of teaching, and management. Similarly, the Principles of Education and History of Education courses treated from somewhat different points of view the topics: aims of education, the selection and organization of material, methods of teaching, and management.

In this plan of organization the same topics were taken up from three or four points of view in as many different courses. The outcome of this succession of fragmentary and incomplete treatments was, necessarily, confusing for teachers and pupils. It may be well to point out again that we were following the traditional and accepted practice in these matters. The inherent difficulty in the situation is apparent at once to anyone familiar with recent discussions of principles underlying the organization of material. Material was organized in subjects upon the basis of similarity in source or character—the logical scheme of organization—rather than upon the basis of the student's needs or the teacher's problems. Thus material from history, psychology, experimental pedagogy, and other sources was put into separate courses.

The key to the situation seemed to lie in a new organization of material upon the

basis of the teacher's activities. Accordingly, the teacher's work was analyzed and the following fivefold classification of duties was made: (1) the determination of aims and values; (2) the selection and organization of material; (3) the presentation of material or method; (4) class and school management; (5) extra-school activities.

This classification of the work of the teacher served as the basis for the new organization of courses. Five courses were planned as follows, and they appear in the curriculum in the following order: Introduction to Elementary Education, Grammar Grade Curriculum, Grammar Grade Methods, Class and School Management, and History and Principles of Education. The first course, Introduction to Elementary Education, serves to acquaint the student with the work of the teacher, the fundamental aims of education, and the place and value of education in a democratic society. In this course, also, provision is made for a study of community life, its forms and processes of organization, and opportunities for leadership. The second course, Grammar Grade Methods, develops the fundamental principles of the selection and organization of material, and shows their application to the several subjects. Scientific methods of curriculum making are emphasized, and the results of scientific investigations in the several subjects are made available. The third course, Grammar Grade Methods, embraces what in the past has been included in general and special methods. It acquaints the student with the common types of teaching, and the technique peculiar to the various subjects. The fourth course, Class and School Management, treats such managerial duties of the teacher as are separable from methods of teaching. Such, for example, are initiating routine, preserving hygienic conditions in the classroom, securing the coöperation of boards of patrons, and the organization and support of education in Virginia. The fifth course, the History and Principles of Elementary Education, comes toward the end of the senior year, after all the other work in education and in teaching has been completed. It serves to summarize and unify the knowledge and experience gained in the students' previous work. Modern tendencies in education are studied in connection with their historical beginnings.

This general program was followed in outlining the work in education in all curricula, although certain changes were made to adjust the work to the different curricula, and to groups within the same curriculum. The 1921–1922 catalogue of the Normal School contains detailed outlines of curricula, showing the adaptations to Kindergarten-Primary, Primary, Grammar Grade, and High School courses, as well as brief statements concerning each course.

A few remarks by way of explanation and criticism of the reorganized courses may not be amiss. These are being followed this year for the first time,—they are still in the experimental stages. We feel, however, that we are moving in the right direction.

The psychology courses were left undisturbed in their primal position. It is possible, however, that further study will show that the Psychology of Childhood and the Psychology of Adolescence, if not Introductory Psychology, may be placed later in the course. The Missouri survey supports this position.

The distinct advantage of the reorganized courses lies in the thoroughness and economy of time and effort resulting from

the clear and definite division of work. Definite topics are allotted to each course for thorough and final treatment.

The courses are arranged in a natural sequence. Introduction to Elementary Education and the curriculum courses usually precede teaching, methods and management courses usually parallel teaching, and History and Principles of Education usually follows teaching.

No restrictions are placed upon the instructor as to the source of material. At his discretion he may select material from psychology, experimental psychology, experimental pedagogy, sociology, history, or any other field. The old organization of material around subjects has been accepted for so long that there is some difficulty in getting suitable textbooks for the courses as planned. This is especially true of the Introduction to Elementary Education and the curriculum courses. However, with new books in these fields appearing, the difficulty will soon be overcome.

THE SUPERVISOR AND THE PROJECT METHOD[1]

This report represents the composite thought of twenty-six principals, five superintendents, and three supervisors. The group selected for its problem the following:

"How may the supervising officer help the classroom teacher to use the 'project' method and how may he supervise the work in the most helpful and coöperative way?"

The problem falls into three large divisions, namely:

I. What are the supervisor's responsibilities?
II. What is to be expected of the teacher?
III. What kind and how much supervision is most helpful?

Each of these topics was discussed and outlined in a general way in the group meetings. Committees were then appointed, who took the suggestions as made in the group meetings as a basis and went into the topic more thoroughly. Their findings were embodied in a report to the group. These reports were adopted by a majority vote and appear in this summary.

I. What are the supervisor's[2] responsibilities?

A. He should have a thorough knowledge of the project method.

On the surface it is almost a barren platitude to say that the supervisor who succeeds with the project method must have a thorough knowledge not only of the philosophy of the method but also of the practical application of it. Yet this is much more than a platitude. In the face of the doubts and reluctance with which conservative teachers give up old methods, the supervisor's first duty is knowledge. Without it he cannot take even the first step in introducing the newer method into his school; with it, he possesses the only means of intelligently convincing his teachers.

This is not the place to urge the necessity of mastering the literature of the subject, although one will find in it enlighten-

[1] A report prepared by a committee of students in the summer session of Teachers College, in a course conducted by Professor James F. Hosic. The chairman was Mr. H. G. Masters, Principal of Beechwood-Beechview Schools, Pittsburgh, Pa.

[2] The term "supervisor" is used throughout the article to include superintendent, principal, and supervisor as such.

ment and inspiration. The important thing is to become grounded in the principles that underlie the conception of method. It is necessary to caution against the danger of a too narrow view of the project. A narrow view of the project restricts it too much to the first type described by Professor Kilpatrick. The teacher who has not been grounded in the theory of the method, in her first attempt to work with it is usually inclined to think of it as a means of teaching children to make something. The dominant idea is to show material results. The supervisor or principal finds this his first chief difficulty. If he is not careful to broaden the conception to include other types, his teachers probably will become discouraged with meager results. Nothing is more important than that a body of teachers in the early stages of their acquaintance with the method understand that projects in enjoyment, appreciation, problem solving, and development of skill, if they be purposeful, are as much projects as making a dress or building a sailboat. For the beginning teacher to know this, the supervisor must know it, and his knowledge must be more than a perception of the fact,—it must be an all-pervading conviction.

He must have not only a knowledge of the many ramifications of the project, but also an intelligent grasp of the practical results obtained in other communities. But much more than reading results, as reported, is needed. Projects should be seen in the process of development. Visits to classrooms in neighboring communities where the project method is being used successfully should be arranged. The practical working out of these projects should be studied, not with the prejudiced eye of a partisan, but with the sane judgment of a practical administrator. If the supervisor possesses a clear comprehension of the project as a broad inclusive principle of classroom method, and a grasp on the results which actually can be obtained by it, he is in an unassailable position to introduce it into his school.

B. He should create among the teachers a desire to use the project method.

The supervisor must bear in mind, when he plans the introduction of the project method into his school, that he has as many different individualities before him as he has teachers, and must proceed on that basis. He has stepped back into the classroom again with his teaching staff as his class. Some of the teachers will be conservative, some over conservative—just plain "sot agin" anything newfangled. Some will be receptive and still others over enthusiastic. It will be his task to enthuse the conservative and restrain the over enthused. In other words, he has a project before him and as a working example of what he proposes to do, it should be worked out projectively.

It would seem to be advisable to call a meeting of the teachers as early in the year as possible, at which time a general discussion of the school work should be taken up. The "project method" should not be thrust forward at once, as to do so might produce a contrary "set" on the part of some which might be very difficult to overcome. Time is not pressing. It would be preferable to proceed slowly and keep going, than to proceed rapidly until some unforeseen difficulty were met upon which the whole project might be wrecked. Rather draw out criticisms of the present condition of the school work and methods and thereby produce a condition of healthy

dissatisfaction. From this proceed to select work which has been observed where the teacher, without calling it "project," has used the "project method" and achieved noticeable results. Bring these before the teaching group and attempt to draw out the question "Why?" The teachers now being interested, the supervisor can begin to talk "project method," definitely connecting the term with the work already accomplished. He will find that the teachers have all done some of this kind of work and are on familiar ground, from which they will enter willingly into an interesting discussion, thereby producing a common bond. This may require several meetings.

It would be well at this stage to group the teachers according to their interests and have them form projects. Many of them will adapt themselves readily and some very excellent material will be produced. Of this the best and most readily adaptable to the situation at hand may be worked out in the classroom and produced from time to time before the group as a whole as a demonstration lesson. If these lessons are followed by conferences where difficulties are solved and outstanding good parts are brought forward strongly, the movement will soon be in full swing.

It now behooves the supervisor to observe closely the progress of the several "projects," to see that the weak teacher is given opportunity to observe others and benefit by demonstration lessons, and that she has the experience of actually carrying on the work in her own room.

C. He should have a thorough knowledge of the teacher's problem.

This knowledge is necessary along two lines,—material and organization. Material may be considered as either permanent or transient in its nature. The former is that type of material which may be used in many undertakings and should be in the school as a part of the permanent equipment. Such material would include reproductions of famous pictures, reference and story books, specimens of materials—metals, rocks, etc.—exhibits of industries or manufactures, models of machines, boats, etc., which are a perennial source of interest to pupils. The supervisor should know where these materials may be obtained. Many of them can be secured from State and Federal bureaus. Advertising agencies also furnish abundant and valuable material. The amount of this material will increase with each succeeding project.

If the material is not already in the possession of the school, or cannot be obtained from a library or museum, then the supervisor must find some other source of supply. It may be that a Parent-Teacher Association, a Civic League, a Chamber of Commerce, or some other body of interested citizens will purchase the equipment. Supplying the funds with which to buy the needed equipment would in itself make a very fine project for the school and would produce a more lasting impression than if the money were received as a gift.

Transient material is that type of material which will be needed for only one project, or for a short time. It may be donated or loaned by the pupils, teachers, or friends of the school.

How to adapt the project to the course of study will be a real problem to the teacher. How to include all the essentials and not expand beyond the limits fixed by the course of study are problems that will be met early in the teacher's preparation for using the project method. The supervisor's

knowledge of the course of study and the field to be covered by the proposed project must be sufficiently thorough to enable him to assist the teacher in making these adjustments to the arbitrary limitations as set up by the course of study.

The social aspects of the pupil-group will determine in large measure the kind of class organization that will be most effective. The group may be one that must be held rather firmly to the matter in hand, or one to which may be given a considerable amount of freedom, or finally the members may have progressed so far along the road toward a sense of a social responsibility that some form of class organization is desirable. The important thing is that the pupils be given full freedom to work out their problems, only stopping short of the place where freedom becomes "license" or when the value of the teacher's leadership is in danger of being weakened. Here it is that the supervisor who, by longer acquaintance with the group, has a clearer knowledge of its characteristics, may by wise council and guidance be of great assistance to the teacher in determining the type of pupil organization that is most likely to be successful.

D. The supervisor should have rich resources from which to suggest ways and means to the teacher.

In helping the teacher to realize her rôle in the project method, the supervisor should make it clear that one important duty is to have a fund of clear-cut, vital questions ready for use in setting the field for purposeful activity. The supervisor should appreciate the teacher's inexperience in that kind of preparation and be ready with a number of suggestive questions in the subject under discussion. The average teacher will have difficulty in bringing forward live issues that will stimulate purposeful activity on the part of the pupils and may fail unless given aid.

II. What the supervisor may expect from the teacher.

A. The supervisor may reasonably expect the teacher to be ready and willing to do the following:

1. To investigate the project method by informing herself, through available literature, of the arguments advanced both for and against it.

2. To examine the course of study for possible "leads" in subject matter best adapted to the needs of the children.

3. To keep abreast of the times, and to be alert to any situation that may present itself as a means for "purposeful activity."

4. To experiment in a wholehearted manner.

5. To receive constructive criticism in the right spirit and to confer with the supervisor in planning and executing the project.

6. To confer with and to visit other teachers who are using the project method successfully.

7. To make sure that her work has a psychological basis.

8. To have the work judged by scientific measurements and tests.

9. To keep a simple record in order to check the amount of work accomplished in relation to the course of study.

B. In order that the project method may be carried on successfully, the supervisor may expect the classroom teacher to possess the following attributes or characteristics:

1. She must be sympathetic. She should believe in children's purposes and activities and provide a definite place on the program to express these purposes; she should

be interested in their interests, enter into their activities, and live through their experiences with them; she should appreciate their viewpoint.

2. She must be a leader. As a leader she must assume the responsibility of knowing the goal, of keeping the class to the purpose; she must direct their activities and guide them to a successful conclusion, and provide for illustrative material.

3. She should be broad in her views, have a thorough knowledge of the course of study, recognize leads in many directions, develop leadership, recognize initiative and provide for promoting it; she should make provision for the exceptionally bright child and at the same time take care of the slow child, create a democratic situation with social control, have command of subject matter and organize it so as to conform to the children's plans.

III. What kind and how much supervision is most helpful?

The suggestions for this section of the report were obtained from a questionnaire. Forty-three replies were returned. These were tabulated and formed the basis for the following:

A. The kind of supervision that is most helpful:

The highest type of helpful supervision is that of strong, sympathetic leadership which results in helpful coöperation, constructive criticism, and stimulating discussion with the teachers in group meetings and individually. The supervisor should observe, suggest plans and materials where needed, lead the teacher to the best literature on the subject, should help in adapting the project to the course of study, should demonstrate if necessary, and should commend and encourage the teacher and pupils. In the use of the project method it may be necessary for the supervisor to guard against waste; and a method of testing and judging results should be worked out by the supervisor and the teacher.

B. The amount of supervision needed will depend upon the ability and experience of the teacher. If she has both of these qualities, she should be permitted to develop the project along her own lines without interference from the supervisor. However, he should keep in sufficiently close touch with it to know how logically and how intelligently it is being developed and to show his interest in it. But if the teacher has limited experience and ability and is too diffident to ask for help, the supervisor should tactfully assist when he deems it necessary. The time and number of visits depend upon the stage and length of the project. Under the project method as well as under the formal method, the amount of supervision depends upon the need of the teacher and the amount of time the supervisor can give to her.

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SUPER-NORMAL CHILDREN—A STUDY

E. RUTH PYRTLE

Principal of the McKinley Junior High School, Lincoln, Nebraska

The tendency in the best modern education is to study the individual differences in children and as far as possible to make the course of study and daily school program fit these individual differences. Many schools are taking care of the various types of children—the super-normal, the subnormal, the motor-minded, etc.,—by special classes suited to the needs of these children.

The first group to receive special attention in Lincoln, Nebraska, was the supernormal or brighter group. This group, called the Preparatory School, was started by Superintendent W. L. Stephens in September, 1909, in the McKinley building under the supervision of the principal, Miss E. Ruth Pyrtle. Each year following for eleven successive years two or three groups of 25 pupils each were sent to this school.

The preparatory school was established to give pupils who are capable, both mentally and physically, a chance to do more intensive and extensive work than the regular course of study provides. Leading educators everywhere are convinced that there is a great deal of waste in education, both in subject matter and in time. The arguments in favor of saving time in the elementary course are well set forth in the report, 'Economy of Time in Education,"

Government Bulletin No. 548. On page 40 this important bulletin says:

"One of the conspicuous causes of waste in elementary education is the attempt to give the same preparation to all, regardless of wide differences in aptitude and the character of the life to be led. Classifying the grades above the sixth as secondary will facilitate a differentiation in the upper grades which will permit some pupils to make more direct preparation for business or the industries than is now possible, while others continue to follow the more strictly academic program as far as may be necessary in preparation for managerial positions or professional life. Without accurate and detailed accounts of the results of actual trial under such an organization, positive assertions as to economy of time could not be made, yet the probability that time would thus be saved would be strong. But enough communities have made progress in this important field to place the matter beyond the stage of mere probability. Worcester, Indianapolis, Baltimore, Lincoln, Harrisburg, and Rochester by maintaining special classes for exceptionally capable children have shown that it is possible for able pupils to save one year between the sixth grade and the twelfth, and with other advantages to themselves besides the saving of time."

Plan of Selecting.—The school was made up of pupils from every sixth A and seventh B grade in the city. The superintendent requested that about 10 per cent of the enrollment of these grades be recommended, selecting those whose records were highest and who were physically capable as well as mentally so. To the parents of those selected by the principals the superintendent sent the following letter:

"To the Parents:

In our public-school system there are some pupils who can, without jeopardizing health, accomplish more than their classmates but who, being able with little effort to keep pace with the rest, are satisfied and fail to develop the powers which are latent within them. While the average and less capable are gaining the ideal of hard work, these few are gaining the idea that all things can be had without effort. This idea is likely to follow them through life and to make them really less effective than some of those of smaller natural gifts who have gained the habit of intense application.

It is our purpose to select from the pupils who have completed the sixth A grammar grade those who have shown unusual capacity. With the consent of the parents these pupils are to be gathered into what is known as the Preparatory School, where during the next two years they will be permitted to complete the regular work of the seventh and eighth grades, and the work of the first year of the high school, so that when they enter the high school it will take only three years for graduation. This plan will save a year's time, but the most important consideration is that these pupils will learn to exercise their exceptional powers instead of settling down into contented mediocrity.

Occasionally after a pupil enters this school, we find it advisable that he should not attempt to do all the work of the first year of the high school. In this case he will be permitted to carry such part of it as seems best to the parent.

Inasmuch as —— is one of those receiving the highest standings in scholarship in —— class, —— is entitled to membership in this school for such length of time as —— shows that —— is able to carry the work successfully. Are you willing for —— to become a member of the Preparatory School, which is conducted in the McKinley Building, corner 15th and M streets?

An early reply will be greatly appreciated. I shall be pleased to answer any questions relative to the plan.

Respectfully yours,

_____

Supt. of Schools

Course of Study for the Preparatory School.—The course of study was the same as that in the regular seventh and eighth grades except that music and art were omitted and one year of regular Freshman high-school work was done during the two years in Preparatory. To get this additional work done the Preparatory student found it necessary to study one and one-half hours, on the average, outside of the

regular class hours. The high standard of health exhibited indicated that the program was not too heavy. Besides this extra work many of these pupils became proficient in music and art because of the private work done in these lines.

The advantages gained through the Preparatory School may be summarized as follows:

Summary of Advantages.—

A. Better work done, because more intensive.

B. Fewer pupils in room, so better instruction.

C. Same teacher for four successive semesters.

D. No waste of time waiting for slow pupil.

E. German or French and Latin languages acquired at psychological language age.

F. Punctuality and attendance averaged 98 plus, which indicates that good habits were established, also that good health was prevalent.

Since the Preparatory students came long distances, averaging one to four miles, they got more fresh air and outdoor exercise than they otherwise would. This perhaps accounted in part for the high standard of good health. None dropped out or failed because of poor health. Very few wore glasses—not one in twenty.

It is the policy of the preparatory school to make classroom instruction concrete and connect life in school with commercial and industrial life outside. To assist in this, speakers from outside have talked to the pupils regularly on such topics as "Banking," "Geography—Weather Forecasting," "Gardening," "Bird-Study," "Right Living," "Newspaper Cartoons," "Cigarettes," etc.

Careful records were kept of the progress and achievements of these children by classroom instructors, by supervisors, and by the superintendent. It was most gratifying to note the high standing of these pupils in high school and in the University. The individual record of each member can be followed throughout his school course. The life record since leaving school would be most valuable study. Owing to crowded conditions—acute housing conditions—in 1919, the superintendent did not have a class selected. These conditions still exist and the plan has not been resumed.

Would that we could measure the value to the individuals served, and to society, of having the individual in school do the type of work suited to his needs and his native capacity!

PSYCHOLOGICAL AND LOGICAL[1]

WILLIAM HEARD KILPATRICK

Professor of Education, Teachers College, Columbia University

"What do these terms 'psychological' and 'logical' mean? I know what each means when it stands alone, but when they appear thus contrasted, they seem to have specialized meanings. Am I right?"

"Yes, I think you are right. As contrasted terms they were introduced, I believe, by Professor Dewey."[2]

"I know it; that's where I found them. But I wish we might talk it over. I believe it would help me at any rate."

"The clearest idea I can get is to think of the 'psychological' as the order of actual experiencing and the 'logical' as the way we arrange what we learn from the experience."

"I don't quite understand. Won't you please explain?"

"Suppose we illustrate. Take government, for example. When did you first begin to learn anything about government?"

"Do you mean the very first, when I was a child?"

"Yes."

"Why, I can hardly say. The earliest that I recall is when I wanted to go on a picnic with my older sister. My mother wouldn't let me and I cried. I think she punished me. At any rate I learned that there were some things I couldn't do without my mother's permission."

"Suppose we take that as a beginning, though it certainly was not your very first. You had in this an experience of being governed and you learned something from it."

"Yes, and the next time I knew better what to expect."

"You mean that what you learned grew out of one experience and prepared for a succeeding experience along the same line?"

"Yes, that's true, though I hadn't said it to myself just that way before now."

"And is this always true, that each experience leaves some result of learning and that this resulting learning in turn prepares, in part at least, for the next experience?"

"You have in mind a succession of experiences along any one line, like government?"

"Yes, and I mean to ask whether in such a case there always is a succession of experience and result,—E_1 R_1 E_2 R_2 E_3 R_3 E_4 R_4 . . ."

"I believe you are right. If I understand you, E_1, E_2, E_3, etc. mean successive experiences of government, and R_1, R_2, R_3 refer to the successive results learned respectively from these experiences."

"Yes, and each R grows out of the E preceding and prepares you in some measure for the E succeeding."

"I am getting lost. You are going too fast for me. I see the different experiences all right. Every time Mother or Father or teacher made me do something, or set up a rule, or punished me for breaking a rule, that was an experience of government. They are the successive E's. That's clear. But what are the R's?"

"Well, let's see. By the time you began

[1] All rights reserved by the author.

[2] See *Child and Curriculum*, pp. 25–28; *How We Think*, pp. 61–63; *Democracy and Education*, pp. 256–261.

school, had you learned at home what you as a six-year-old might and might not do?"

"Yes, I was pretty well adjusted, you might say, though I would sometimes break over."

"Had you learned all this at once, as the result of just one experience?"

"No, it took a great many experiences to teach me. I remember that for quite a while I kept running away, till finally I learned that I had to have permission before I went out of the front gate."

"Did, then, your first experience of running away teach you nothing about government?"

"Oh, yes. I learned that I couldn't run away without being called to account. Eventually I learned to ask permission."

"And after that another round of experiences, perhaps in connection with your brothers and sisters, taught you something about others' rights and the need to respect them."

"Yes."

"So each experience (E) does leave some deposit of learning (R), and each such R does make you look out differently—in some degree—upon the future?"

"Yes, that's clear. I see that each R not only grows out of a preceding E but also helps us face some succeeding E."

"I should like to ask here about the successive R's. Does R_3 sum up R_1 and R_2, or what?"

"Let's answer that by another illustration. Suppose a child, say three years old, is first introduced to dogs by playing with a white, playful little fellow. As he plays (E), he builds up in himself a notion (R) of what a dog is and what to expect. When his mother says that Grandmother has a dog, he expects the same kind of small white playful dog. But suppose Grandmother's dog turns out to be black, though small and playful. What will he now think when he hears that Uncle John has a dog?"

"He will think that Uncle John's dog is small and playful, but he will be in doubt as to the color."

"Does his notion (R_2) after playing with Grandmother's dog reject R_1, his former notion of dog?"

"No. In part R_2 confirms R_1. He thinks even more firmly that a dog is small and playful; but in part it changes R_1. He now thinks a dog may be white or it may be black."

"And will the like process continue when he meets large dogs, yellow dogs, fierce dogs, and so on?"

"Yes, it must so continue. I see now that each succeeding R in some measure utilizes all the preceding, but it may correct their deficiencies."

"Isn't it in these different and contrasting experiences that the child comes to notice the different things about a dog?"

"Yes. Suppose Fido hurts his foot and goes limping about, what effect on the boy?"

"Why, he will become more conscious of Fido's feet than before and he will also see how all four feet must work together if Fido is to run well."

"Let me say it a little more explicitly. As the child has from time to time need to think, now of foot, now of tail, now of forelegs, now of eyes, he comes to separate these out of the total notion of dog and for the purposes of thought gives them, as it were, a kind of separate existence. This we may call differentiation of parts. Moreover, while the child is differentiating out any one part, as the foot because of the lameness, he is at the same time seeing how this part is connected with the rest: Fido

needs all four feet for normal running. This we may call integration or coördination. Now I assert that differentiation and integration go hand in hand."

"Yes, that's clear. Now does not this have some effect on the successive R's?"

"To be sure. They become thus ever more complex. They have more and more recognizable parts and the parts are seen to be joined together in ever new ways."

"From what you are saying the separate parts seem to become known after the child has a notion of a dog and not before?"

"Yes."

"But is not this contrary to what we have been taught about going from the simple to the complex?"

"Do you mean that a child should build his idea of a dog as he builds a block house, one block or one element at a time?"

"Well, why not?"

"Let's try it and see how it would work. Shall we begin with the feet to build our idea of a dog. Does the child first learn the feet of the dog, and then the legs, joining the latter to the former on top? And does he then learn the body, and join this to the already waiting legs and feet? And does he next add the ideas of tail and head? Does he take each such successive step with no notion of the whole dog till he has thus built it up?"

"That's absurd! You are making fun of me."

"Not of you, but of that way of building up an idea. It *is* absurd, isn't it?"

"It certainly is, but now I am lost, I am afraid, entirely. How does the child build an idea?"

"Go back to the differentiation we discussed. The child saw the lame foot and so saw foot and feet more clearly than ever before. This differentiation was bringing into clearer relief what was less clearly present before."

"Yes, I see that much."

"But the notion of the dog was all the while a notion of a whole dog even from the first."

"Certainly."

"But it was not so with building the house. The first block didn't make a whole house or anything like it."

"I think I see now. The boy's first experience was of a whole dog and he got a notion of a whole dog. This notion was at first simple enough—and inadequate—but it became more and more complex and more and more adequate as more and more parts or characteristics were differentiated and integrated. However, the notion under consideration was all the time and at each time that of a whole dog."

"Exactly so."

"Well, what has all this to do with 'psychological and logical'? Have you forgotten that? What is the good of all this anyhow? What is going to come from it?"

"We do seem to have gone pretty far afield. Suppose we try to collect it all together. Imagine as regards government a very long series of experience and learning-result closely worked out, stretching from earliest babyhood up to the knowledge of the most learned scholar in the realms of thought. We may picture it in this fashion: $E_1\ R_1\ E_2\ R_2\ E_3\ R_3\ \ldots\ E_{10}\ R_{10}\ E_{11}\ R_{11}\ \ldots\ E_{50}\ R_{50}\ E_{51}\ R_{51}\ \ldots\ E_n\ R_n\ E_{n+1}\ R_{n+1}\ \ldots$ In this the E's mean successive experiences of government and each succeeding R is the learning result that followed that experience. In every case R grows out of a preceding E and prepares, in some measure, for a succeeding E. Let's look at this series and ask some questions about it. We'll suppose we have before us the growth of

the conception of government in a well taught person who comes at length to be a great authority in the subject. I ask first: Is each R made from its preceding E by conscious intent or not?"

"I should say not with conscious intent. Surely as a child he didn't intend to learn. He didn't think about that. He learned, to be sure, but he didn't consciously mean to learn."

"Probably as a child he did not consciously intend his learning,—though often his parents meant he should learn,—but how about his later years?"

"If he is to become a conscious student of the subject, there certainly will come a time when he intentionally studies his experiences in order to draw from them their lessons. Even if he were not to be a scholar, he might still as a man of affairs take conscious note of what was going on so as to profit by it. So the later R's are made with more or less conscious intent."

"Can his parents or a teacher help this process?"

"Certainly. They can help the boy draw proper conclusions. I suppose in line with our previous discussions they will wish him to be purposeful in his experiences in order that he may better learn. They will also in all probability 'set the stage' or 'load the dice' ,or otherwise contrive that he have fruitful experiences."

"What do you mean by fruitful experiences? Are some more fruitful than others?"

"Why certainly. In fact if parent or teacher or somebody didn't help the child, he would never catch up with what the race during untold centuries has been learning. This means, of course, wise oversight of the boy's experiences."

"Suppose the E's are the right kind, that is, purposeful on the boy's part and fruitful of result, what about the successive R's? How will they differ from each other?"

"As we have already seen, each R in turn is itself more or less of a whole, summing and supplementing and correcting the preceding. They grow continually more and more differentiated within and at the same time more and more fully coördinated. They are also, I suppose, more consciously organized—we might say more and more logical. Not only will each be more carefully drawn as a conclusion from the preceding experiences, but I think each formation of the conception will be more and more consciously made, organized on more and more rational grounds. This is what I mean by saying it would grow more and more logical."

"Let's go back a minute. How different is any E from its R?"

"If I understand you, they are different kinds of things. Any E is a bit of life itself, actual experiencing, while the R is a result in the mind, an ordering and arranging of what is learned from the experiencing. E is life, R is what is learned from life so arranged as to control better the next experience (a new E) along this line."

"Even a child profits from his experiences, then?"

"Certainly. You might say, if you wish, that each time of life has its own learning, its own arrangement of learned results, its own logic. These successive R's differ as regards organization in degree, but little if any in kind or function."

"You apply the term logical to each learning result. Do you do this deliberately?"

"Yes, I think the essence of logical arrangement is effectual organization of experience. I find this in substance—

perhaps I had better say 'in germ'—in the learning of even the youngest child. The very essence of learning is for control of subsequent experience. So I am willing to say that each R from the first is for its stage logical."

"Am I to infer that by analogy you apply the term psychological similarly to each experience?"

"Yes, just as the result (R) is organized logically, so is the learning experience by its very nature arranged psychologically, that is, for learning. Perhaps the definition here lies as much in the contrast as in the terms themselves."

"I am not quite clear as to your use of the word logical. Do I correctly understand you that when the words logic and logical are used in their ordinary sense, they refer to the higher reaches of systematic organization, the kind we expect of well-disciplined minds? But when logical is used in contrasted connection with psychological, both terms vary with the development of the person: to each psychological age and experience its own logical arrangement?"

"Yes, that's the way I understand it."

"Won't you state, then, succinctly the difference between the psychological and logical order? I think I know, but I am not sure."

"The psychological order is the order of experience, of discovery, and of consequent learning. The logical order is the order of arranging for subsequent use what has already been learned."

"I have heard people discuss whether we should arrange a course in science, say, psychologically or logically. I think I see dimly what they mean, but I should like to see it more clearly. Can you help me?"

"I think so. Go back to our long series written down above, stretching from E_1 R_1 up to E_n R_n E_{n+1} R_{n+1} . . . Let's ask, first, what is the difference between a scientist and a teacher of science,—between what a scientist and what a teacher of science should try to do? Where on this scale would the scientist as such live?"

"I suppose toward the end."

"Suppose we say he now has reached R_n and no one has gone further. Then he will try to push ahead and learn still more. He will use his R_n to map out an experiment or a series of observations (E_{n+1}) from which by careful reasoning he will hope to draw some new conclusions. If successful he will arrange his results in a form to stand criticism and present them as R_{n+1} to the world. This is what the scientist as such would do."

"Yes, I see that."

"Now by contrast suppose a teacher of science who has gone through the whole series up to and including R_n; how will he try to bring his son, say, up to R_n?"

"How old is the son and how much does he already know?"

"Why ask these questions?"

"Because he must begin where the son is."

"Do you mean that each learner is at a certain stage on this series and must begin there if he is to advance?"

"Yes, surely. How else could it be done?"

"I agree with you, but is it always so done? What about our textbooks, in physics for example?"

"What do you mean?"

"Is it not true that most textbooks take the latest results of science (R_n) and try to state them simply, then divide this material into thirty chapters and assign these in turn as lessons?"

"I hadn't thought of it that way, but I believe you are right."

"Suppose the child has reached a development indicated by R_{10}; is Chapter I (the first thirtieth of R_n) the same as R_{11}, and Chapter II the same as R_{12}, and so on?"

"Why no, that would be like building that block house, wouldn't it, a block at a time, and like getting the notion of the dog by beginning with the feet and then adding the legs?"

"I think it would be much like it. And what notion would the child have of physics after a few lessons like this? Do you from this see the difference between the logical and psychological order?"

"I begin now to see. The logical order is taking a mental organization fit for grown-ups, chopping it into pieces, and giving it piece at a time to the child to learn. I suppose the idea is that when he gets all the separate pieces he will then have a whole. But isn't it absurd? It is in fact like building up the notion of the dog by getting first the separate notions of feet, legs, body, tail, and head, and then putting these together. I am glad you gave me that illustration."

"Isn't geometry frequently so taught?"

"Yes, always so, unless there is special preparation for the ordinary geometry book. And that's one reason why it often proves so difficult. Of course Euclid's book was for much more advanced students."

"Isn't it true that when R_n is thus cut up into pieces and assigned as so many lessons, memorizing the formulation is about all the child can do?"

"This is often so. The child's E's, then, are not real experiences, only efforts to memorize statements of the results of somebody else's experience. Under such conditions thinking, real thinking, the thinking of discovery and exploration, is pretty well prevented."

"And if the child doesn't experience, if he has no true E's, he will have no true R's, no really self-organized learning results. Am I right?"

"I think so. I see no escape from that conclusion."

"But are you not going too fast? Do you mean that the child must himself rediscover all that the race has found out? That's impossible!"

"I don't mean to leave the child without help. His process will be immensely shortened by having as a guide some one who knows the field. He is thus saved the costly blind alley wanderings. But he must himself face the essential problems if he is to organize in himself the solutions. On no other basis can he come to have an effectual grasp of the solutions as instruments of further thinking along this line. We can give him information, that bichloride of mercury is a poison. He can use this information and save himself from being poisoned; but neither chemistry nor medicine can be taught merely by giving such information. Where knowledge and wisdom and power are sought, there must be much actual facing of difficulties. Experience in a field is necessary for anything like mastery of the field."

"I am not clear on one point. A while back we spoke of the child's having from the first a notion of a whole dog. That seemed clear then. But I fail to see the similarity between that and his work with the science. Do you mean to assert that he has from the first a notion of the whole science and that this undergoes differentiation and integration as we saw in the case of the dog?"

"Yes and no. We do not say that the notion of physics as a science was born the day the child first realized that a stone unsupported will fall, any more than we think the notion of biology was similarly born the first day he saw the dog. But any vital and natural experience has a unity that makes it a whole, whether it be of a falling stone or of a lever or of a syphon. And the child forms a notion of the experience which for him at the time is a whole, however much his more sophisticated elders may feel it as of necessity only a part of a larger whole. Later, if the child is fortunate he will have further fruitful experiences in this realm. Each such will be a whole, but oftentimes will join itself with previous experiences; and the new notion will supplement and correct the old ones. Differentiation and integration will in this manner arise, and at length what you and I call the science of physics will be born. If the boy be so inclined and is still fortunate, this likewise will undergo differentiation and integration and logical articulation with successive experiences until mayhap the existing limits of the science are reached. Throughout, if the process be normal, each experience (E) is a whole and each successive R is for our pupil, student, and scholar at that stage likewise a whole, however partial and lopsided that particular R may later appear. But the thirtieth part of R_n is to the novice not a whole, nor is memorizing it or otherwise 'learning' it likely to be felt as a vital and whole experience of physics (though it may be felt as a real experience of bad teaching). Nor is 'learning,' in this fashion, all the chopped up parts of R_n a valid way for building in the boy the organization R_n. That can be done only by following the psychological as herein sketched."

"You are pretty hard on the logical order when used for learning. I judge you don't approve of grammar as most of us learned it."

"I certainly do not. It exactly illustrates what I mean to condemn."

"Wouldn't you on the whole mistrust definitions?"

"Yes. If I hear that a teacher requires his pupils to memorize many definitions, I have my doubts at once as to that teacher's insight."

"One further question. What does 'psychologizing subject matter' mean?"

"It refers to the work of the teacher in preparing for the learning of his pupils. In terms of our discussion it means to take a science as the scientist knows it (as R_n) and 'unscramble' it into such a series of E_1 R_1 E_2 R_2 E_3 R_3 . . . as will lead the learner from where he now is through successive experiences (E) and learnings (R) until he comes to a firm grasp of the science itself. It means to make a path of psychological order from the learner's present state up to a state where he has much experience well organized."

"One last question. You have spoken as if this applies only to science. Does it apply also to our ordinary school subjects?"

"Indeed it does. I may by elaboration say that high school science should certainly begin as general science and that be preceded by many experiences preparatory to it—not 'deferred values,' mind you, but experiences in which children live here and now. Geography should be so taught. In our best schools English grammar has already been so made over that little of the *nth* degree logical is now left. The older grammars were atrocious examples of teaching by the strict logical order. Civics

is now being remade thus into citizenship. History teaching is probably scheduled for a similar transformation. Many causes are at work to make over the school subjects more and more into the psychological order. In fact our best thinkers now conceive the curriculum itself as a series of experiences in which by guided induction the child makes his own formulation. Then they are his to use."

"We have much to think over, but I believe it is worth it."

AN EXPERIMENT IN COÖPERATION
VII. The Question of Grammar

JAMES F. HOSIC

Associate Professor of Education, Teachers College, Columbia University

Traditions die hard. As a matter of fact they generally have a kernel of truth in them, no matter how much exaggeration of emphasis custom and hearsay may have added to it. So it is with the tradition of the linguistic aspects of the study of English in the schools. Beginning as an offshoot of the study of Latin, the study of English grammar early secured a place of honor in the elementary schools and to this day the pedagogical conscience is likely to be tender in regard to it.

In our experiment the first troubled spirit to broach the subject made the man higher up the point of reference. "The high schools complain that we do not teach enough grammar. How shall we meet this criticism?" Now, the well-known tendency of most teachers to underestimate the previous training of their students is not an entirely convincing reason in the minds of grammar-grade teachers for ignoring criticisms from above. The pupils suffer and they come back to their former teachers to say so. Those teachers face a condition, not merely a theory.

The answer which the leaders made to the query, "WHAT about grammar?" was, "Wait, and see. Let us consider first what the pupils in the grades actually need in the way of instruction in English grammar to enable them to improve their speaking and writing. Possibly when we concentrate in the right way upon the essential topics, the high school teachers will be better satisfied. So far as the instructors in foreign languages are concerned, they must expect to teach a good deal of grammar. That is what they are paid for."

THE PROOF OF THE PUDDING

Presently something happened. One of the district superintendents called the principals and upper grade teachers of a certain territory into consultation about English teaching with the principal and English teachers of the high school which serves that territory. The high school teachers were asked to voice their sentiments in the matter of grammar and they did so in no uncertain terms. Pupils coming to high school were notoriously deficient in this respect.

Then the principal of our experimental school was invited to explain just what his teachers were doing with grammar. It wasn't a formal study—merely a handmaiden to speaking and writing. There was

no attempt to cover a treatise on the subject, however elementary. "We thought so," was written on the faces of the high school group.

And then the superintendent did an uncanonical thing. He called for the records in English of pupils who had come from the various schools. "And lo, Ben Adhem's name led all the rest." When it came to actual performance, to the *use* of English, the graduates of the school which was making no effort whatever to conform to demands for formal instruction in grammar, but which had earnestly striven to develop an effective course in composition, especially oral composition, made the best showing by the testimony of the high school itself.

The sequel was startling. Impressed by the incident which we have just described, the principal of the high school requested his English teachers to visit the experimental school and endeavor to catch the secret of modern, informal methods in composition. The teachers went—with what feelings may be imagined.

Investigation in other quarters tended to confirm the impression which this experience gave. Pupils going to high school from the experimental schools were being remarked upon for their ability to meet the actual demands of speaking and writing which arose in the English classes and elsewhere. Scholasticism received little comfort from our enterprise, though none of us were so sanguine as to hope for its early and complete disappearance from strongholds in which it has so long been entrenched. "Should not a *gentleman* know all of these things?" quoth he.

WHAT GRAMMAR TO TEACH

None of us assumed, of course, that there is any virtue in *avoiding* instruction in grammar altogether. Just as a few fundamental principles of effectiveness—of rhetoric, if you please—are a distinct aid to him who would attain to clearness and force, so some facts and principles of correctness as determined by current usage are of value to one learning to obey the conventions of the vernacular. Grammar constitutes a part of the science of the art of expression in words but as such has its natural limitations. The question to raise is, "What knowledge of grammar does in fact enable the speaker and the writer to improve?" Almost equally pertinent are the questions, "*How* is such knowledge best acquired, and when?"

In accordance with our general plans and point of view, we of the English centers regarded all of these as open questions. That children make certain types of grammatical errors more frequently than others is now scientifically determined. It is not known, however, to what extent teaching the rules governing correctness in such matters will work improvement. Some reputable writers seem to assume as an axiom that ascertaining what errors in grammar are most frequently made automatically selects the topics for chief emphasis in systematic grammatical instruction. We assumed nothing of the sort. Instead, we asked each teacher to investigate the matter for herself and presently to report upon what grammatical instruction she found worth while in her grade. Ultimately committees were formed to organize the findings in the various schools, and at last a central clearing house committee was asked to put the several reports into one.

The following brief outline as thus prepared for the Chicago Course of Study was the result:

ESSENTIALS OF GRAMMAR

Grammar is to be taught with a definitely practical aim, not as an end in itself. That aim should be:

1. To help in the formation of habits of correct English.
2. To assist in the mastery of the sentence as a unit of oral and written English.

The teaching of grammar must grow out of the needs of the children in so far as their attempts at expression indicate those needs. Such suggestions as follow must not be misconstrued to mean the formal grammar of definition, classification, and subtle analysis. The course to be effective must be coördinated with the work of composition, *i. e.*, primarily with the speech of the children. Only in the highest grades may the simpler, more obvious facts of grammar be so employed as to aid in the interpretation of literature.

Grades I–IV

Correct errors of speech as they appear. Attempt the elimination of the characteristic errors of the class in hand, such as, double negative, wrong form of pronoun, incorrect uses of the verb. The common errors are so many and so well known that it is unnecessary to list them here; moreover they vary somewhat in different districts. It is advisable for the teacher to list those most prevalent in her own class and then work persistently to overcome them.

Contrive games and three-minute drills to give children practice in the correct use of words they commonly misuse.

Grade V

In this grade the teacher should gradually and carefully introduce a small amount of grammatical nomenclature; that is to say, she may begin to call a spade a spade. She must not require definitions nor formal pointing out of parts by the pupils. She may accustom them to her distinction of *common* and *proper nouns*, with reference to the capitalization of the latter. The terms *verb* and *adjective* may well be used in criticism of their speech, *e. g.*, that the *verb* is wrong when they say "I seen" for "I saw"; that a narration might be more interesting if instead of saying that one "went across the street" a verb were used that gave more of a picture, as dashed, crept, sneaked, or wabbled.

If such a procedure is judiciously followed throughout the grade in connection with the children's composition, they will gain a fair acquaintance with a terminology which is useful at the time by way of economy and which serves as what might be called the foundation of some measurably formal instruction later.

Notation: Guard against "action word." Call it a verb.

Grade VI

The "sentence sense" has been developed through five years of oral composition. If they have been taught rightly, the children have been consciously "speaking in sentences." They should be taught enough about the relationship of *subject noun* and *predicate verb* and about verb forms to assist them to understand the *agreement of verb with subject. Present and past tenses* may be taught by way of helping the child who says "I ask him to go" to correct his speech.

Note. Whatever of grammatical content is taught here must be the natural outgrowth of the children's endeavor *to use English.*

Grade VII

With the composition of the pupils as the basis of the study, the idea of parts of speech should be amplified to include in this grade:

1. Adverbs: Distinguish from adjectives for the sake of usage.
2. Pronouns: Case forms for subject, object, and possessive—purpose as above, correct usage.
3. Verbs: Participles, also proper contractions; *e. g.*, show why "he don't" is incorrect.

In sentence structure consider:

1. Phrases: To place them most effectively in composition, or to help in the interpretation of literature.
2. Subordinate clauses: To use them as a means of more accurate or graceful expression.

Grade VIII

The task of the eighth grade is to organize the material that has been informally handled in the earlier grades and to amplify further the ideas of sentence structure and of parts of speech. The basis of the material of instruction is, as before, the pupils' use of language. This being the case, the outline which follows is not given as

direction for the order in which the topics should be considered, but as a summary of the grammatical knowledge which the pupils may be expected to assimilate in the *course of the year's work in composition*.

Note carefully the suggestions for the previous cycles. Discover whether the pupils of the seventh grade have the abilities indicated. Develop or redevelop them as necessary.

I. Parts of Speech.
   1. Nouns: common and proper, singular and plural, possessive.
   2. Pronouns: case forms of personal and relative pronouns as subject or object; correctness of reference (*who* and *which*).
   3. Adjectives: recognition, for effectiveness in use; comparison, for correct form.
   4. Verbs: tense, voice, noting principal parts of troublesome verbs (use dictionary).
   5. Adverbs: distinguished from adjectives by form and use.
   6. Prepositions: to secure correct idiomatic use.
   7. Connectives: treated very simply, not for classification, but with the purpose of enlarging vocabulary and securing more accuracy of speech.

II. Sentence Structure.
   1. Simple Sentence: classified according to purpose as declarative, interrogative, imperative, exclamatory.
   2. Essential Elements of Simple Sentence:
      (*a*) Subject, simple and complete.
      (*b*) Predicate, simple and complete.
      (*c*) Modifiers, classified as to use, not form.
   3. Complex Sentence: function of subordinate clause, clearness, variety, economy of words.
   4. Compound Sentence: value in summing up or in balancing statements.

Note. None of these topics should be treated exhaustively. The purpose of the course is fulfilled in the realization that there is a law of language, the basis of correct speech; in the recognition that there are greater force, flexibility, and variety to expression.

Briefly, the children should pursue the course with the conscious purpose of learning how to make better sentences.

Two features of this outline are worthy of notice. In the first place, grammar is related as closely as possible to composition. Indeed, it is described as a part of the course in composition. In the second place, the purpose to be served by instruction in each topic is definitely indicated. Attention is to be called to phrases, for example, not to insure the ability to distinguish or classify but to cultivate the power to construct better sentences.

This is the spirit of the whole outline and is to become the "conscious purpose" of the pupils whose course in grammar is suggested by it. Grammar is to be, not a subject apart, pursued for its own sake, like the science and mathematics now happily being superseded, but a guide to improvement in the art of communication, an aid to him who would obey the conventions of the vernacular current in his time and so economize the attention of his auditors.

HIAWATHA'S WEDDING FEAST
Dramatized by Seven-Year-Old Children

ETHEL M. GREEN
State Normal School, Milwaukee, Wisconsin

The play was given by the second grade of the Milwaukee State Normal School. It represented the product of about two months' work, not more than a half hour each day, however, having been given to the study. A part of that time was devoted to costume-making in the regular art period and for the making of pipes, bows and arrows, tomahawks, and other things needed in the play. During the regular gymnasium period some time was given to learning the Indian dances needed in the play, and at the regular music period to learning songs to be sung, and at the regular literature period to learning the poem and arranging the play. During the regular reading period some time was spent in reading Indian stories for the purpose of enjoyment and of getting information concerning Indian dress and habits that might be valuable in working out the play. Two half-hour periods were devoted to writing letters to a school supply company inquiring the cost of red clay to be used by the children for modeling the pipes. A little time was taken to calculate the cost of materials.

In addition, the children at home on their own initiative spent some time collecting Indian relics, such as bowls, tobacco pouches, horn, etc., and in making such things as spears, tomahawks, etc., that were needed in the play.

A little extra time was spent by individuals who had been selected by the class to confer with teachers in various departments on particular problems. For example, the music department was asked to write the music for the words that Chibiabos sang; the physical training teacher was asked to help with certain Indian dances; and the head of the art department was asked to help with the stage scenery.

The children themselves chose the particular part of the story to be dramatized. They had played "Hiawatha's Childhood" without costumes, and the entire story of Hiawatha had been read to them many times. After much discussion they agreed upon the "Wedding Feast."

On the stage was a wigwam which had been brought by one of the children, and stretched on the back wall was a large poster of pine trees, expressive of the lines, "Dark behind it rose the forest." There was also a large hollow log.

> "And Osseo when he saw it,
> Gave a shout, a cry of anguish,
> Leaped into its yawning cavern,—"

The stage setting was arranged to harmonize in color with the costumes which the children had made. Their suits were of khaki cloth, fringed and decorated brightly with Indian symbols. Their moccasins of brown cloth were also brightly decorated, and their headgear was adorned with gay colored feathers made of paper.

At the beginning of the play Hiawatha, Minnehaha, and old Nokomis were busy about the wigwam in preparation of the feast. Some of the guests had arrived and were squatted in Indian fashion on either side of the stage. An Indian yell was heard in the distance. It came nearer and nearer.

Then from the piano below the stage came Indian dance music; at the side entrance to the stage there was a tremendous Indian yell, and in came a procession of thirty or more children in full Indian costume. They came in the stooping, sneaking, alert manner characteristic of the Indian race. They encircled Hiawatha and Minnehaha, dancing the Indian snail dance, winding about them, then unwinding, keeping time to the music, and finally seating themselves in Indian fashion in a large semicircle on the stage.

Then the feast began. Old Nokomis and Minnehaha set large bowls before the guests, and gave them spoons. These bowls were borrowed wooden bread bowls which the children had chalked white. The spoons were made of black cardboard. The guests began to eat. Of course they were only pretending.

Then the children spoke to the audience.

1st Speaker:

"You shall hear how Pau-Puk-Keewis,
How the handsome Yenadizze
Danced at Hiawatha's wedding;
How the gentle Chibiabos,
He the sweetest of musicians,
Sang his songs of love and longing;
How Iagoo, the great boaster,
He the marvelous story-teller,
Told his tales of strange adventure,
That the feast might be more joyous,
That the time might pass more gayly,
And the guests be more contented."

2nd Speaker:

"Sumptuous was the feast Nokomis
Made at Hiawatha's wedding;
All the bowls were made of bass-wood,
White and polished very smoothly,
All the spoons of horn of bison,
Black and polished very smoothly."

3rd Speaker:

"She had sent through all the village
Messengers with wands of willow,
As a sign of invitation,
As a token of the feasting;
And the wedding guests assembled,
Clad in all their richest raiment,
Robes of fur and belts of wampum,
Splendid with their paint and plumage,
Beautiful with beads and tassels."

4th Speaker:

"First they ate the sturgeon, Nahma,
And the pike, the Maskenozha,
Caught and cooked by old Nokomis;
Then on pemican they feasted,
Pemican and buffalo marrow,
Haunch of deer and hump of bison,
Yellow cakes of the Mondamin,
And the wild rice of the river."

5th Speaker:

"But the gracious Hiawatha,
And the lovely Laughing Water,
And the careful old Nokomis
Tasted not the food before them,
Only waited on the others,
Only served the guests in silence."

6th Speaker:

"And when all the guests had finished,
Old Nokomis, brisk and busy,
From an ample pouch of otter,
Filled the red-stone pipes for smoking
With tobacco from the Southland,
Mixed with bark of the red willow,
And with herbs and leaves of fragrance."

While the sixth child was speaking, old Nokomis and Minnehaha gathered up the bowls and spoons. Then Nokomis filled the pipes and the guests began smoking. The pipes were of red clay, and had large bowls and long handles. Nokomis said:

"O Pau-Puk-Keewis,
Dance for us your merry dances,
Dance the Beggar's Dance to please us,

Pau-Puk-Keewis Dancing at the Feast

That the feast may be more joyous,
That the time may pass more gayly,
And our guests be more contented!"

Then Pau-Puk-Keewis danced to piano music such a dance as he thought might have been danced at the feast. The gymnasium teacher had taught him the dance. He was dressed as he thought Pau-Puk-Keewis might have been dressed, even to the plumes on his head, the fan of turkey feathers, and the tails of foxes on his heels.

Then Nokomis said:

"Sing to us, O Chibiabos!
Songs of love and songs of longing,
That the feast may be more joyous,
That the time may pass more gayly,
And our guests be more contented!"

Chibiabos sang in sweetest tones:

"Onaway! Awake, beloved!
Thou the wild-flower of the forest!
Thou the wild-bird of the prairie!
Thou with eyes so soft and fawn-like!
If thou only lookest at me,
I am happy, I am happy."

All the children joined in singing the last line, "I am happy, I am happy." After this some one said:

"O good Iagoo,
Tell us now a tale of wonder,
Tell us of some strange adventure,
That the feast may be more joyous,
That the time may pass more gayly,
And our guests be more contented!"

And Iagoo answered:

"You shall hear a tale of wonder,
You shall hear the strange adventures
Of Osseo, the Magician,
From the Evening Star descended. . . .
Once, in days no more remembered,
Ages nearer the beginning,
When the heavens were closer to us

And the Gods were more familiar,
In the Northland lived a hunter,
With ten young and comely daughters."

At this point Iagoo stopped and smoked. He had decided when we were working out the play that, even though he could tell the whole story, it would be too long. The audience might get tired, and the Indians at the feast might get restless. Then, too, the children had planned to dramatize at some later date the story Iagoo told, and the audience would not care to hear the story twice. All the other children did not know his plan, and some begged him to continue. He smoked in silence for a while, then said:

"There are great men, I have known such,
Whom their people understand not,
Whom they even make a jest of."

To these last words many of the Indians responded:

"Does he mean himself, I wonder?"

Then old Nokomis said again to Chibiabos:

"Sing to us, O Chibiabos!
Songs of love and songs of longing,
That the time may pass more gayly,
That the feast may be more joyous,
And our guests be more contented!"

And Chibiabos sang:

"When thou art not pleased, beloved,
Then my heart is sad and darkened,
As the shining river darkens,
When the clouds drop shadows on it!
When thou smilest, my beloved,
Then my troubled heart is brightened,
As in sunshine gleam the ripples
That the cold wind makes in rivers."

After this he sang again the first song, ending with:

"If thou only lookest at me,
I am happy, I am happy."

All of the guests joined in singing these last lines, then rose and danced an Indian war dance, and left the stage, stepping to the music in Indian fashion and chanting, "I am happy, I am happy."

Some of the values derived from the work I have described are as follows:

The pupils gained in the formation of certain social habits, such as that of working earnestly and joyfully together to attain a definite end, of giving help and of taking criticism in the right way. They gained in ability to take the initiative and in the habit of looking for better ways of doing things.

Through planning this play, and through doing all the things necessary to carrying out the plans, such as making costumes, having the words Chibiabos sang set to music by the music department, requesting the gymnasium department to teach the dances needed, through memorizing the lines, and through the actual playing of the story, the children obtained a rather thorough appreciation of this particular portion of *Hiawatha*. I think they gained also, as a result of the work, a better appreciation of music, drawing, manual arts, and dancing as actual means of expression.

PREPARING NATURE STUDY TEACHERS

JAMES S. GRIM

Instructor in Nature Study, Keystone State Normal School, Kutztown, Pennsylvania

In order to determine what students in some other normal schools of the United States were doing in their nature study work, it was suggested that each member of our nature study class (170 in all) write a personal letter to a teacher of nature study with the request that she hand the letter to an interested student of hers for reply. Patterson's Educational Directory was used to secure correct addresses. Normal schools were selected on a geographical basis, care being taken not to send letters to many schools in one state to the exclusion of other states.

The letters were composed in regular school time under the instructor's supervision. The supervision did not extend, however, to details of composition, but was restricted to general problems of motivation. Each student wrote out her nature study reactions, her experiences in the course, in a direct personal way as though she were telling about them across the table to a stranger of like age and experience. In many cases pictures of the school, the campus, and nature haunts nearby were inclosed.

Replies soon began to come in. These were brought to class and read aloud and discussed. In a few instances the instructor herself as well as a student replied, but in most cases responses came from students only. A sufficient number of replies have been received to indicate that nature work in many teacher-training schools of the United States is not handicapped by a deadening uniformity. States maintaining uniform courses of study exhibit wide diversity in actual practice in this phase of school work.

Although many objections can be raised to the student-reaction method of discovering drifts and testing tendencies in educational aims, yet when sufficient data are at hand this method has some merit of directness. For what a teacher does counts more than what she may try, listlessly or otherwise, to do.

One would naturally expect that students, graduates of a high school, studying the possibilities of nature material for training purposes in the grades would have definite ideas as to principles, aims, and methods involved and that discussions of their experiences would revolve around such ideas. One would think, too, that there would be some basis of general accord or agreement in principle that would be an outstanding feature of the responses.

This lack of harmony prompts the query, Is it not possible to discover or suggest elements that should be common features in courses offered in every state? Or does local tinge require conflicting aims and discordant principles?

From a study of the student replies a basis for uniformity does not seem impossible. The basis is the child itself—the chief nature problem. So long as we emphasized content, objective nature, however fascinatingly presented, there were bound to be teachers of the book and lecture type, and textbooks for student-teachers were naturally filled with insect, bird, and flower material—books that are

excellent elementary biologies but poor tools as helps in nature study.

It is difficult to shed pedagogical names. It is agreed that the phrase "nature study" is unfortunate unless qualified and intensified by present-day interpretations. To the student-teacher who has a lower grade child before her the phrase "nature study" does not connote elementary biology; the phrase has not yet, in a sense, taken on science implications. The science consists in the selection, organization, and presentation of nature tools that will evoke desirable responses.

The child problem is the only outstanding one that can be common in all courses of nature study. Knowledge of nature *in* the child rather than familiarity with nature outside is basic in value. A knowledge of outside nature to a teacher is useful only in its means of personal reactions. Racial tendencies, inheritances of various sorts, tendencies of different forms, constitute a nature equipment whose significance to a leader of child life has more profound value than informational facts about flowers, birds, and insects, a considerable body of which cannot be made to function in classroom practice.

It is difficult at times to control the nature leadings within a child by the use of pets, gardens, etc., but the work ranks high or low according to this reasoned control. For instance, sunlight can be taught most effectively when the teaching conforms to the principle of biological relationships of organisms to solar energy.

Like a leaf the child moves toward the light. It cries for the moon; it gazes at the stars; it delights in playing with fire; and in the olden days it worshiped the sun. Here is an instinct, a nature force, a tendency to move in response to pleasurable feelings. It is the teacher's privilege to organize situations in harmony with it—situations that will develop into habits of hygienic light relations.

In preparing a teacher for this work through a project-problem on light, the chief aim should be habit formation and should turn on the securing of repeated light responses. Handwork, "cutouts," games, songs, outdoor walks, garden activities, expression work generally, are aimless and meaningless to the teacher who has not a clear-cut response program in mind. Observation of response development in children and the discussion of the principles of interpretative expressions induced by concrete situations is the very heart of a nature study course for teachers.

In view of this it is very easy to understand why some teachers, poorly equipped in knowledge of science, are doing excellent nature work and why some others well-trained in biology, physics, and chemistry are not meeting expectations.

Enthusiasm for outdoor life, while helpful, is not so important for a prospective teacher as enthusiasm for child life and a desire to know how to use common things to develop wholesome responses.

Emphasis on the direct needs of the child to satisfy its normal and biological cravings should be the basis of nature work in teacher-training schools generally. Naturally, there must be variations in methods and materials in the several states to secure worth-while results.

A few subordinate problems raised by the students of our class, in view of so many divergent expressions of opinion by fellow students in many scattered normal schools, were: 1. Is there a basis of agreement? 2. In what might this basis consist? 3. To what extent can an agreement be widely accepted?

LEARNING TO LEARN

CHARLES H. SAMPSON
Huntington School, Boston, Massachusetts

The old idea of learning seemed to require that the student be attentive enough to absorb knowledge by listening. The teacher did most of the work in class. It was true, of course, that the student had something to do outside of class. The result was that the teacher became efficient as an explanatory medium of the truths of the subject that he was teaching but the student, unless somewhat exceptional, lost much because he could not, under the circumstances, bring the best of himself to the surface.

Unless a student learns to learn by doing, he is likely to suffer keen disappointments and possible failure, this, not because his native ability is below average but because he does not know how to use the abilities that he has.

Let us consider a class in college preparatory algebra, for example. The point can be illustrated here as well as anywhere. How can a student best learn algebra? There is only one satisfactory way that is applicable to all classes of students who have the ability to learn it at all. He must learn to learn it; he cannot generally absorb it as a result of mere teaching even though it be exceptionally well taught.

Let us suppose that a certain number of problems are assigned in the subject of fractions for a given lesson. The part that the teacher should play in the accomplishment of the solution of these problems resolves itself into a first-class explanation of the processes and methods involved and the reasons for doing this or that. He may well do a few problems further to illustrate the methods that he has been explaining if by such procedure he can fix the application of them. Then the student must play his part; he must do the problems himself if the result is to be as desired. This requires work on his part rather than on the part of the instructor. Here is the whole trouble: the student does not want to work. He finds it difficult to get the idea that learning is the result of work. Merely to listen is not necessarily to learn.

A good way to conduct any recitation is to divide it into two parts, one of which is a teaching proposition, the other, a learning one. The first part is, of course, to be used by the teacher, the second part by the pupil, except for such supplementary aid as the instructor may find necessary to give. If students could see the advantages of attacking the job which is theirs during their half of the period as a game to be won, how simple and effective would be this task of instilling knowledge. A visitor to a class conducted after this fashion might find the teacher doing nothing during the second half of the period, but if he found all of the students working as though their lives depended on the result of their labors, he could rest assured that there was nothing the trouble with the method in that class.

During this latter half of the period the instructor is nothing more nor less than a helper in time of trouble. A certain detail of the explanation may not have been entirely clear; let him explain and straighten out the difficulty. "Is this the correct answer to the first problem?" says John quietly. "No, John, there is a slight error there (pointing it out). See if you can get

the correct result now." The chances are that John will succeed in a moment or two. He is learning to learn. Delightfully inspiring it is to see boys and girls playing the game.

"Here are two of the most difficult problems that I have been able to find anywhere, and the pupil who solves them before the end of the period will get an 'A' for the day," says the teacher. The student who does not respond to this has something the trouble with him. American youth does not play that way. He may say that he does not care to accept the challenge that has been thrown at him, but in his heart he will want to get the answers to those problems. Eventually, practically every member of the class will be able to get that "A."

Such a method as this shows its results gradually. A gradual accomplishment, however, is almost invariably the most satisfactory one in the end. It is true here. Boys and girls who have actually learned to learn need have little fear of the college entrance tests.

The teacher who can teach by lecturing may well consider himself somewhat of a wonder. This sort of thing gets by in college because there is no "comeback." In the preparatory classes for college, however, one may lecture his head off and yet not accomplish the desired end because he has no check at all on what his students are learning to do for themselves. Let us as teachers teach our students to learn.

THE CLEARING HOUSE

COST AND CONSERVATION

A good project for the seventh and eighth grades is learning to read the meters and compute the cost of electricity, gas, and water used in the home.

Launching the Project: Electric lights are burning when class enters room. Request a student to turn off the electric current. By class discussion bring out the following points:

1. Why not let lights burn all day?
2. Who determines the cost per month?
3. How does he decide the amount?
4. What other conveniences about the house?
5. How does each of these get to the house?
6. Does each convenience cost same?
7. Why have meters?
8. Does anyone else read meters except the representative from company?
9. Would it be well to have a check on reading?
10. Would you like to read the meters at your home and compute cost?

Students will be instructed to go home, locate their meters, make a drawing of the figures on the faces; also notice the shape of the meter.

Method of Procedure:

1. Drawings to be placed on board. Students describe outside appearance and location of meters. Learn to read dials.
2. Interpretation of terms. Students will go to the textbook and reference books to find what they can about meters, for the purpose of learning how the meter measures. They report information found.
3. Computing cost. Learn rates charged by company. Find amount consumed as indicated by two meter readings. Find cost of same.
4. Drill in reading and computing cost of several readings.

Practical Application:

Class work out a chart on which readings are to be recorded. Each student makes a chart.

Each student reads meters on Thursday and Monday evenings. All read meter on same day that company's representative reads it. Compute cost for month. Bring company's bill from home and check amounts. Pupils should be encouraged to continue checking readings each month.

The idea involved is, conservation of energy. Electric lights, often burning when not needed, are requiring energy which is supplied by coal. Our natural resources are decreasing with each generation.

A SEED SALE

Situation: A class of second grade children had become interested in a Junior Red Cross membership drive and wished to earn its dues of forty-five cents by selling seeds.

Activities: The children gathered seeds from home gardens. Each child made an envelope according to his own ideas. The best envelope was selected by the class, its owner was asked to explain how he made it, and many more were made like it. Then each child decorated an envelope. The decorations were discussed by the class and the most attractive designs were repeated many times on other envelopes.

The class advertised the sale well. Many children brought to school advertisements cut from magazines and newspapers. These were read to find out how to write an advertisement. The class observed that a good advertisement tells where and when to buy an article, and how cheap and how good it is. With these four points in mind, they set about writing advertisements, first learning to spell the words, then practising them on the board, and finally writing the advertisements on large pieces of unprinted newspaper. They cut large baskets and vases of flowers, printed their names beneath them, and hung them about the room. The large advertisements or posters were hung in the halls. Children were chosen to go to the different rooms and explain the purpose of the sale, telling a little about the work of the Junior Red Cross Society.

When the seeds were in the envelopes ready to be sold, the question arose, who should sell them? It was decided to play buying seeds with toy money in order to find out who would make good salesmen. In this manner several good clerks were discovered, but when the real sale took place there was such an unexpected rush that the little sales people became confused and the teacher had to do most of the selling herself.

One hundred and three packages of seeds were sold and many disappointed customers were turned away.

PROVIDING AN AUDIENCE FOR ORAL READING

In the fourth and fifth grades the following plan is in use in the Franklin School, Port Arthur, Texas. In this school there are four classes of each half grade, eight fourth grade, and eight fifth grade classes. Each teacher of academic work (reading, writing, spelling, language, arithmetic, and geography) has all of the academic work of a Low and all of the academic work of a High class for one grade. There are four teachers for each grade.

The teachers are requested to arrange their programs in such manner that reading will come at the same time for two teachers. The teachers are paired off before programs are made. To be specific let us use actual class numbers. Classes 29, 30, 31, and 32 are all Low Fourth classes. Classes 33, 34, 35, and 36 are all High Fourth classes. The teacher of academic work for class No. 29 also has academic work for class No. 33. Class No. 30 and class No. 34 are taught by the same teacher. The third teacher teaches Class No. 31 and Class No. 35; in like manner 32 and 36 are taught by the same teacher.

Classes 29 and 30 have reading at the same time daily on their program. Today is preparation day. In each class from five to ten children are working with the teacher preparing material to be read tomorrow to the children of the other class. They are mastering the difficult words. They are making

every effort to do their best tomorrow. While they are preparing, with the active assistance of the teacher, the other members of the class are reading silently. They are provided with ample material from the school library, with story books from home, and with magazines, railroad and steamship folders, and catalogues of mail order houses. What they have read during the silent reading period will be carefully checked during the language period.

The morrow arrives. It is a great day for each class. Those who prepared yesterday go with their teacher to the room of the other class. Class 29 is being entertained by children from class 30. Class 30 is being entertained by children from class 29. The children who are reading have an audience. The audience does not know what is going to be read. It is not going to find fault. It is expecting a good story, well read. During the language period, after the readers have returned home, the class will talk about the stories that were read. They will also criticize the manner in which they were read.

Let us step into the room of class 29. A child from class 30 steps forward. He announces the title of his story. Perhaps he gives a brief synopsis of it before beginning. He must do all that he can to hold his audience. Each member of that audience has on his desk a book. If the reader fails to interest him as much as the book, he will not listen to the reader but will read from his book.

All of the audience wait until the title has been announced and the story begun before anyone opens a book. Then we see a few books being opened and read. The story is a good one, light applause follows, and the entire audience attends to the title and beginning of the next story. This time not a book is opened. The audience is held while a boy reads from the Boy Scout magazine the story of "Yellow—Clear Through" by P. L. Anderson. At the end of four minutes the teacher calls time. By a show of hands the audience requests another minute. Five minutes is the final limit of time to be given to one reader. At the end of the minute the audience votes to continue the story day after tomorrow. The reader takes his seat and a girl then reads about "Queen Mab and the Cherry Blossom," by Margaret Tod Ritter in the "Every Girl's Magazine." This time the girls vote to have the story continued. The third child to read is a boy who is large for his grade and somewhat backward. He could not do well in any standard reader for his grade, but the teacher has chosen for him an easy story, "From a Japanese School Reader," in *John Martin's Book* for February. This is the story he has longed for. He has had four days of careful preparation—we learn later. He reads without an error. The tale is full enough of interest to compensate the audience for the monotonous manner of reading. It is completed and the boy returns well pleased.

Do not think that all stories are from magazines. They are from many sources. One teacher has gathered together twenty-five different kinds of readers and story books from which to read. The school takes all magazines that are published for children.

The plan is useful for the poor reader or the lazy reader who comes before his audience not properly prepared. The audience leaves him by all reading silently, and the teacher stops him when she sees that he cannot hold a majority of the audience.

Each child under this plan reads orally to an audience at least twice a month. He reads to his teacher two or three times for each time he reads to the audience. Each time he reads he is on his feet for at least two or three minutes. The plan affords more reading. The reading is better motivated. Some parents complain because the children do not read every day. When invited to a reading lesson, however, they do not complain but go away well pleased with the accomplishments of their children.

By assigning the teachers in pairs classes 33 and 34 work together with the same teachers who have classes 29 and 30. The plan

has proved so successful that from an experimental beginning with two classes it has spread to all of the classes. Some third grade teachers are using it. In a smaller school the children of one grade could read to the children of another grade.

LEONARD POWER,
Principal, Franklin School,
Port Arthur, Texas

INDIAN MUSIC—A CHILDREN'S PROJECT

It was also a normal school student's project. She had been asked to prepare a series of lesson plans for teaching English composition, unified in idea, and covering several weeks of class time. Her own interests were so strongly musical that somewhat unusual possibilities suggested themselves. It was decided that she should find music—folk music preferably—sufficiently expressive of an experience within the children's range as to make them wish to compose suitable words.

Indian music was found to meet these requirements. The grade selected for the experiment was the fourth. The class was a heterogeneous one in a recently organized school. It was regarded as decidedly below grade in English, and it certainly had no enthusiasm for composition.

The objective we had in mind could not properiy be reached without an acquaintance with Indian life. This was carefully presented in the usual way, including various problems that the children themselves proposed. When the topic "Indian music" was reached, the first song was sung by the teacher. Then she played some songs on the piano, asking the children to suggest the idea or feeling expressed, and confirming—usually—their guesses by singing the words. Finally she played an unusually expressive selection which the class at once decided was storm music.

"Sing it," they demanded.

"I cannot sing this one," she replied; "I have no words."

"We must have words," they cried.

"There is only one way to get them," she suggested.

They saw the opportunity and went to work. First the whole selection was played again and they organized the ideas it expressed,—the rolling of the thunder, the beating of the rain, etc. Then came the line by line composition, with much discussion and trial of various renderings and with growing critical appreciation. There were opportunities for the teacher to list vocabulary possibilities and to make other suggestions that exercised their selective powers. Over and over they sang it to test each new line. When at last it was completed, they experienced the kind of creative joy that poets know.

The subsequent history of this group amply justified the experiment. They showed a real zest for rightly motivated composition, and an attitude toward criticism that looked toward a passion for perfection. They often wished to spend more time in revision than their teacher had anticipated, so that the sense of satisfaction experienced by the various persons concerned in this project became cumulative.

SARAH J. MCNARY,
State Normal School,
Trenton, N. J.

A CORRECTION

Miss Elizabeth Breckinridge, Principal of the Louisville Normal School, desires us to say that the article on "Home Life in Louisville in 1800 and 1921—Heating, Lighting, and Ventilation," which appeared in our January issue, should have been accredited to Miss Minnie Burks, a teacher in her school. We are glad to make this correction.

AS REPORTED

EDUCATIONAL STANDARDS

Teachers and school officials everywhere will be interested in the standards adopted by the New England Association of Colleges and Secondary Schools at a recent meeting in Boston. The standards are as follows:

1. The purpose of the school should be to develop in each individual to the fullest possible extent the knowledge, interests, ideals, habits, and powers whereby he will find his place and use that place to shape both himself and society toward ever nobler ends.

The presence of such an effective purpose in a school will be shown by the intellectual attainment of the pupils, their courtesy, industry, respect for authority, sense of personal responsibility, initiative, and habits and powers of ready and effective coöperation.

A public high school especially should be in close relation to the community which it serves. With due allowance for local conditions, the efficiency of the service of the school will be revealed by its drawing power as shown by the percentage of the school population enrolled in the school, and by its retentive power as shown by the percentage of entrants who complete the course.

2. The instruction shall be on a high level, as measured by present standards and as shown by satisfactory results in pupils. Such results will consist not only in the mastery of subject matter but also in the interest and attention of the pupils and in the acquisition by them of correct habits of thought and study.

3. The program of studies shall be unified, coherent, well-balanced, susceptible of effective administration, and adapted to the purpose of the school.

4. The requirement for graduation from a secondary school shall be the completion of at least fifteen units, normally based upon the completion of eight years of elementary school work or the equivalent. Fractional units may be counted toward this total.

Definition: A unit represents a year's study in any subject in a secondary school, so planned as to constitute approximately one-fourth of a full year of work for a pupil of normal ability. To count as a unit, the recitation periods shall aggregate approximately 120 sixty-minute hours. Time occupied by shop or laboratory work counts one-half as much as time in recitation.

5. Teachers shall give evidence of adequate preparation in subjects to be taught.

6. Teachers of academic subjects beginning service in New England in September, 1922, or thereafter, shall have satisfactorily completed at least four years of study in institutions of collegiate grade, or the equivalent. In the opinion of the association five years of such study is desirable.

7. Teachers of academic subjects beginning service in New England in September, 1924, or thereafter, shall have had professional training equivalent to twelve semester hours.

The following types of courses are recommended as meeting the spirit of this requirement: general introduction to education, educational psychology, principles of secondary education, teaching of particular subjects, observation and practice teaching, history of education.

8. Teachers of special subjects (such as music, drawing, manual training, domestic science) beginning service in New England in September, 1922, or thereafter, shall have had at least two years of study beyond the secondary school, with special courses in the subject to be taught.

9. Satisfactory evidence of successful

experience may be accepted in partial fulfillment of standards 6, 7 and 8.

Note: It is understood by the association that standards 5 to 9 do not apply to teachers in service in New England previous to September, 1922.

ESSAY BY AMERICAN SCHOLARSHIP HOLDER IN FRANCE

The French Government offers to American college women through the American Council on Education certain scholarships and fellowships in lycées and écoles normales. Miss Marjorie Howland, formerly of Vassar College, one of the young women appointed this year to a scholarship in the Lycée de Versailles, is the author of the following brief essay. Mr. Firmin Roz, of the Office national des Universités et Écoles françaises, writing of the work of the American scholarship holders, says:

"La Directrice du Lycée de Versailles nous a déjà adressé un très intéressant rapport sur l'organisation du travail des boursières américaines dans son établissément. Elle nous a même communiqué le premier devoir de chacune d'elles sur ce sujet: 'Définissez la simplicité, l'élégance et la coquetterie. Illustrez vos définitions par trois portraits.' La Directrice nous a prévenus que ce devoir était une seconde rédaction refaite d'après les indications du professeur et revue par lui. Vous trouverez ci-joint un extrait de la composition française de Miss Marjorie Howland qui nous a paru assez intéressant pour vous être signale. Il y a quelques légères retouches du professeur."

Miss Howland's essay follows:

La Simplicité

Pour une personne qui vient d'un pays où il y a tant de luxe, tant d'extravagance en toutes sortes de choses, c'est un vrai plaisir de trouver en France la simplicité. Le portrait de la jeune fille du lycée français est peut-être le meilleur exemple que je puisse trouver de cette simplicité qui m'a tant frappée partout. La jeune fille française n'arrive pas à son lycée avec deux ou trois malles remplies de costumes pour toutes sortes d'occasions magnifiques. Elle sait qu'elle n'est venue à son lycée que pour étudier, et que les robes de soie n'y seront pas nécessaires. Quelques petits tabliers pour la classe, une robe de dimanche, voilà tout; elle n'a pas besoin de grandes malles. La coiffure d'une jeune Française, comme son costume, marque aussi la simplicité; mais c'est la vie qu'elle mène à son école que je trouve la plus intéressante à propos de la simplicité. Elle se lève à six heures et demie, fait sa toilette dans une chambre qui est à peu près chauffée, fait ses prières; elle exécute quelques mouvements de gymnastique, mange un petit déjeuner léger, et puis, elle s'en va en classe. Pendant la journée, nulle récréation, excepté quelques minutes après le grand déjeuner. Et pendant l'après-midi, nulle sortie, excepté pour aller à la classe; l'étude seule remplit les heures. Le soir vient; c'est le temps de sa récréation, mais quelle récréation simple! Des jeux dans le salon de son pavillon, la lecture, peut-être; puis, il est temps de se coucher. Ainsi la vie d'une jeune Française à son lycée témoigne à une Américaine de la simplicité de la vie française, et je crois que l'Amérique a beaucoup à gagner à ces leçons.

THE REORGANIZATION OF MATHEMATICS IN SECONDARY EDUCATION

THE FINAL REPORT OF THE NATIONAL COMMITTEE ON MATHEMATICAL REQUIREMENTS

The complete report of the National Committee on Mathematical Requirements is in the press and will, it is hoped, be ready for distribution in April. It is published under the title, *The Organization of Mathematics in Secondary Education,* and will constitute a volume of about 500 pages. The table of contents given below indicates its general character.

Through the generosity of the General Education Board, the National Committee is in a position to distribute large numbers

of this report *free of charge*. It is hoped that the funds available will be sufficient to place a copy in every regularly maintained high school library and also to furnish a copy free of charge to every individual who is sufficiently interested to ask for it. Requests from individuals for this report are now being received. Those who are interested in receiving the report are urged to send in their requests as early as possible, addressing them to J. W. Young, Chairman, Hanover, New Hampshire. If the number of requests received exceeds the number of copies which the Committee is able to distribute, the earlier requests will be given preference.

The table of contents of the report is as follows:

PART I. GENERAL PRINCIPLES AND RECOMMENDATIONS

Chapter I. A Brief Outline of the Report
Chapter II. Aims of Mathematical Instruction —General Principles
Chapter III. Mathematics for Years Seven, Eight and Nine
Chapter IV. Mathematics for Years Ten, Eleven and Twelve
Chapter V. College Entrance Requirements
Chapter VI. Lists of Propositions in Plane and Solid Geometry
Chapter VII. The Function Concept in Secondary School Mathematics
Chapter VIII. Terms and Symbols in Elementary Mathematics

PART II. INVESTIGATIONS CONDUCTED FOR THE COMMITTEE

Chapter IX. The Present Status of Disciplinary Values in Education, by Vevia Blair
Chapter X. The Theory of Correlation Applied to School Grades, by A. R. Crathorne
Chapter XI. Mathematical Curricula in Foreign Countries, by J. C. Brown
Chapter XII. Experimental Courses in Mathematics, by Raleigh Schorling
Chapter XIII. Standardized Tests in Mathematics for Secondary Schools, by C. B. Upton
Chapter XIV. The Training of Teachers of Mathematics, by R. C. Archibald
Chapter XV. Certain Questionnaire Investigations
Chapter XVI. Bibliography on the Teaching of Mathematics, by D. E. Smith and J. A. Foberg

FOREDOOMED TO "FLUNK"

For grading the members of a school or college class there is one method that would never find adoption among producers in non-academic fields. It fixes in advance what proportion of the class shall receive highest rank, what proportion the next highest, and so on down, including the proportion that shall fail. For example, if the teacher has a class of sixty, he determines in advance that the highest twelfth, say, shall receive the mark Excellent; that the next three-twelfths shall receive the mark Good; the next four-twelfths, Fair; the next two-twelfths, Poor, while the remaining two-twelfths shall fail. That is to say, before he has read the final examination papers or has made up his marks for the term's work, he knows that of these sixty pupils, five will take high honor; fifteen will receive the rating Good; twenty, Fair; ten, Poor, while the ten lowest will fail to receive a passing grade, no matter what they have accomplished. With the advantages always found in mechanical systems, this method seems to bewitch a certain type of teacher and superintendent.

Yet who can picture a Deerfield onion grower or a Rogue River orchardist undertaking to grade his products in advance by any such method? Only a crazy man would ignore the difference between crop and crop. In cattle judging, in fruit grading, in sorting manufactured articles, standards are standards year in, year out. To condemn for discarding in advance of inspection a fixed percentage of a yield, regardless of the particular quality of the

season's run, would never occur to a practical man who must earn profits by sales.

Is the case different in school or college? No observant teacher can believe the quality of classes so uniform in successive years and so regularly distributed through the make-up of single classes that a rigid grading can be stencilled on them year by year without inaccuracy. Successive classes of boys and girls differ at least as much as successive runs of maple sap or alewives. This year the careful analysis of pupils' work may result in one award of honor and ten failures; next year the same method of individual rating may result in ten awards of honor and one failure. Yet from the Pacific coast to the outskirts of Boston, teachers individually or by whole staff may be found employing this inflexible method and praising it as impartial. Even in the bluest days of earlier New England, such election and rejection by forerunning decree were never commended to the use of men.—*The Boston Herald.*

THE READER'S GUIDE

THE NEW PSYCHOLOGY

Since the publication with Professor Thorndike of a series of studies in formal discipline, the teaching world has looked to Professor Robert S. Woodworth of Columbia University for unusually helpful treatment of the practical problems of psychology. More than an ordinary welcome, therefore, will be accorded his latest work entitled *Psychology—A Study of Mental Life*.[1] This is a much more ambitious work than the same writer's *Dynamic Psychology*, published by Macmillan three years ago. That book was made up of a series of popular lectures delivered at the American Museum of Natural History in New York City. The *Psychology* is a complete college textbook.

It differs in many respects, however, from the texts already available. There is, to begin with, a notable difference in style. Professor Woodworth writes with a simple, even homely directness that will appeal very strongly to college students. When one considers that the psychology class in college is made up of young people who only yesterday were in the high school, he realizes that a prevailing fault of college textbooks is the over-mature and abstract quality of the vocabulary used in them. This difficulty Professor Woodworth has almost entirely overcome. No doubt some of the more puristic will be a bit shocked by his informality, not to say colloquialism.

Still more striking is the order of topics and chapter headings. After a preliminary chapter on what psychology is and does, the subject is opened with a study of reactions. In this way the student is introduced at once to the modern behavioristic point of view. There follows a series of chapters on native and acquired traits, including instincts and emotions. Then, as though to give the physical basis to explain the reactions so far described, appears a chapter on "Sensation." Chapter XII, entitled "Intelligence," strikes one as the first of the kind in any American psychology. Certainly it is unconventional to put perception near the end of the book. Undoubtedly our author has given more thought to the order in which the reader can best attack the subject than to the logical development of ideas. In other words, the point of view of the teacher has prevailed over that of the merely scientific.

A third very important feature of this new *Psychology* is the exercises. Here Professor Woodworth has applied the modern material of tests and scientific examinations. Such directions as "Pick out the true statements

[1] By Robert S. Woodworth. New York: Henry Holt & Co., 1921.

from the following list," and "Rate the images called up according to the following scale," represent a new type of practice that ought to prove a delight in the actual work of the classroom.

Of all the textbooks offered to the student world, certainly those dealing with the mental processes ought to be most skillfully prepared. Teachers in training as well as those in service will find in Woodworth's *Psychology* the book they have been looking for as a means to attaining a working knowledge of psychology, thoroughly sound and at the same time agreeable in its presentation.

SIGNIFICANT ARTICLES

A BRIEF FOR THE CASE METHOD

Professor W. P. Burris, of the University of Cincinnati, believes that the most important advance to be made in methods for the training of teachers is to introduce the case system into schools of education and normal schools. In *School and Society* for February 4, 1921, he recounts the history of the case method as applied to the teaching of law, and argues that its complete success there is evidence that it would be equally effective in the study of education. Objections there may be, but none that could not be overcome. He would, of course, continue the use of practice schools and other current means. In order to make his suggestion definite, he offers an elaborate plan for the making of a record of a school exercise. This includes a report by an observer and stenographic notes to be taken by a clerk.

It is interesting to note that President Lowell of Harvard University devotes several pages of his last annual report to the same topic, using, however, the term "problem method." He perceives a close connection between the project method as now advocated and the case system used in the Harvard Law School since 1871.

PROJECTS IN CITIZENSHIP

Doubtless many will agree with Mr. R. W. Hatch, instructor in Citizenship in the Horace Mann School of Teachers College, that formal instruction in history and civics does not seem to result in effective habits of good citizenship on the part of the pupils. In the *Historical Outlook* for February he offers a series of concrete suggestions for projects intended to develop a sense of reality and effective ideals of group coöperation. Among his suggestions are those of meeting the problem of courtesy in the classroom through a town meeting, the arranging of a school congress, naturalization, and clean-up week. Mr. Hatch would group projects in citizenship under the following types: (a) projects involving extra-curricular activities; (b) incidental projects; (c) projects in classroom instruction.

EXTRA-CURRICULAR ACTIVITIES IN JUNIOR HIGH SCHOOLS

In *Educational Administration and Supervision* for January appears an interesting report on extra-curricular activities in junior high schools, compiled by students in Teachers College under the direction of Professor Thomas H. Briggs. The report opens with a definition as follows: "Extra-curricular activities are those legitimate activities not provided for in the curriculum." They will vary in different schools. Such activities are justified because they offer the best opportunity to help pupils to take their places as members of social units and because through them the school may utilize the spontaneous interests and activities of adolescents. Thirteen principles of administration are laid down for

the guidance of those who have charge of extra-curricular activities, and at the end appears a list of such activities and an appropriate bibliography. The article as a whole is of very great value to any who have to do with extra-curricular activities.

THE NEW BOOKS

Opportunities of Today for Boys and Girls. By Bennett B. Jackson, Norma H. Deming, and Katharine I. Bemis. New York: Century Co., 1921. Pp. xviii + 274. Illus. Price, $.85.

A reading book devoted to vocations.

The Mechanism of the Sentence. By A. Darby. Oxford University Press, 1919. Pp. 210. 6/6 net.

A summary of facts for the information of teachers.

The Psychology of Arithmetic. By Edward L. Thorndike. New York: Macmillan Co., 1922. Pp. xviii + 314.

All of the school subjects need such an analysis as this.

Civic Science in the Home. By George W. Hunter and Walter G. Whitman. New York: American Book Co., 1921. Pp. 416. Illus. Price, $1.40.

What every boy and girl—to say nothing of their parents—need to know.

A Manual of the Mechanics of Writing. By Raymond Woodbury Pence. New York: Macmillan Co., 1921. Pp. xxiv + 211.

Primarily for college students, but valuable also as a desk book for the literary worker in general.

The Alexander-Dewey Arithmetic. By Georgia Alexander. Edited by John Dewey. New York: Longmans, Green & Co., 1921. Elementary Book, pp. xiii + 224, illus.; Intermediate Book, pp. xv + 256, illus.; Advanced Book, pp. xvi + 288, illus.

The work of a progressive educational thinker and a progressive supervisor of elementary schools.

Community Civics for City Schools. By Arthur W. Dunn. Boston: D. C. Heath & Co., 1921. Pp. x + 582. Illus.

This, with the companion volume on rural schools, represents a remarkable advance in specific teaching of vital as opposed to merely formal knowledge. The illustrations are numerous and to the point.

Community Civics and Rural Life. By Arthur W. Dunn. Boston: D. C. Heath & Co., 1920. Pp. xii + 507.

History as a School of Citizenship. By Helen M. Madeley. Oxford University Press, 1920. Pp. 106.

An account of dynamic teaching. Stress is laid on "action teaching," discussion, source work, and individual exploration.

New Geography, Book One. By Alexis Everett Frye. Boston: Ginn & Co., 1920. Pp. x + 264 + viii. Colored plates.

New Geography, Book Two. By Wallace W. Atwood. Boston: Ginn & Co., 1920. Pp. iv + 304 + xvi. Colored maps, plates.

Done in the best of the book-maker's art. The illustrations are especially striking.

Yosemite and Its High Sierra. By John H. Williams. San Francisco: John H. Williams, 1921. Pp. 193. Illus.

A charming book. Every geography teacher will wish to have his pupils see it.

Readings in Evolution, Genetics, and Eugenics. By Horatio Hackett Newman. Chicago: University of Chicago Press, 1921. Pp. xviii + 523. Illus.

A source book for college students.

A History of the Perse School, Cambridge. By J. M. Gray. Cambridge: Bowes & Bowes, 1921. Pp. 161. Illus. Price, 10/6.

A well-written account of one of the most interesting of the English "public" schools.

How to Speak. Exercises in Voice Culture and Articulation, with Illustrative Poems. By Adelaide Patterson. Boston: Little, Brown & Co., 1922. Pp. viii + 158.

The Use of Projects in Religious Education. By Gertrude Hartley. Philadelphia: Judson Press, 1921. Pp. 91. Illus.

A much-needed guide to modern constructive methods in the church school.

Peeps at Many Lands. Egypt, by R. Talbot Kelly, and *The Holy Land,* by John Finnemore. New York: Macmillan Co., 1921. Pp. 173. Illustrations in color.

Sunday School teachers will wish this for their pupils, as will day school teachers of geography.

IN PAPER COVERS

The Intermediate School in Detroit. By Charles L. Spain, Arthur B. Moehlman, and H. L. Harrington. Detroit Educational Bulletin No. 6, 1921.

Viewpoints in Biography. By Katherine Tappert. Chicago: American Library Association Publishing Board, 1921.

English. A Course of Study for Use in the Elementary and Secondary Schools of Washington. State of Washington, Department of Education, Bulletin No. 37, 1921.

The Training School. By Frank L. Wright. Colorado State Teachers College Bulletin. Series XXI, No. 3, 1921.

Whittier Social Case History Manual. By J. Harold Williams *et al.* California Bureau of Juvenile Research, Bulletin No. 10, 1921. Price, 25 cents.

Principles of Supervision. By W. F. Tidyman, State Normal School for Women, Farmville, Va., 1919. Price, 25 cents.

Detroit Kindergarten Test. By Harry J. Baker and H. J. Kaufmann. Yonkers, N. Y.: World Book Co., 1922.

The Course of Study in the Work of the Modern School. By H. B. Wilson. Berkeley, Cal.: Course of Study Monographs, Introductory, 1921.

Arithmetic: Course of Study for the Elementary Schools. Monograph No. 1. *Home Economics:* Course of Study for the Elementary, Intermediate and High Schools. Monograph No. 2. *Nature Study:* Course of Study for the Elementary Schools. Monograph No. 3. *Geography:* Course of Study for the Elementary Schools. Monograph No. 4. *Penmanship:* Course of Study for the Elementary Schools. Monograph No. 5. The Public Schools, Berkeley, Cal., 1921.

A Little Book of Verse. Written by members of the Four B English Classes of Wendell Phillips High School, Chicago, Ill., 1919–1920.

Survey of the Writing Vocabularies of Public School Children in Connecticut. By W. F. Tidyman. Bureau of Education, Teacher's Leaflet No. 15, November, 1921.

Educational Survey of Elizabeth City, North Carolina. Bureau of Education, Bulletin, 1921, No. 26.

Music Departments of Libraries. Bureau of Education, Bulletin, 1921, No. 33.

Salary Schedules, 1920–1921. National Education Association, Bulletin No. 19, January, 1922.

Mimeographed Bulletin on *Reorganization of Work in Seventh, Eighth and Ninth Grades.* By H. B. Bruner and J. N. Hamilton. Oklahoma Educational Association, 1921.